6AF4

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UHF OSCILLATOR TRIODE

MINIATURE TYPE

GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:

Voltage	6.3	ac or dc volts
Current	0.225	amp
Resonant Frequency (Approx.)	1000	Mc

Direct Interelectrode Capacitances (No external shield):

Grid to Plate	1.9	μμf
Grid to Cathode and Heater	2.2	μμf
Plate to Cathode and Heater	0.45	μμf

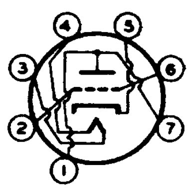
Characteristics - Class A_1 Amplifier:

Plate Voltage	80	100	volts
Cathode-Bias Resistor	150	150	ohms
Amplification Factor	15	16	
Plate Resistance	2270	2130	ohms
Transconductance	6600	7500	μmhos
Plate Current	16	20	ma

Mechanical:

Mounting Position	Any
Maximum Overall Length	2-1/8"
Maximum Seated Length	1-7/8"
Length, Base Seat to Bulb Top (Excluding tip)	1-1/2" ± 3/32"
Maximum Diameter	3/4"
Bulb	T-5-1/2
Base	Small-Button Miniature 7-Pin (JETEC No.E7-1)
Basing Designation for BOTTOM VIEW	7DK

Pin 1 - Plate
Pin 2 - Grid
Pin 3 - Heater
Pin 4 - Heater



Pin 5 - Cathode
Pin 6 - Grid
Pin 7 - Plate

OSCILLATOR IN UHF TELEVISION RECEIVERS

Maximum Ratings, *Design-Center Values*:

DC PLATE VOLTAGE	150 max.	volts
DC GRID VOLTAGE	-50 max.	volts
DC GRID CURRENT	8 max.	ma
PLATE INPUT	2.5 max.	watts
PLATE DISSIPATION	2.25 max.	watts
DC CATHODE CURRENT	28 max.	ma

PEAK HEATER-CATHODE VOLTAGE:▲

Heater negative with respect to cathode	80 max.	volts
Heater positive with respect to cathode	80 max.	volts

▲: See next page.

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Typical Operation as Oscillator at 950 Mc:

DC Plate Voltage	100	volts
DC Grid Voltage	-4	volts
From a grid resistor of	10000	ohms
DC Plate Current	22	ma
DC Grid Current (Approx.)	400	μamp
Useful Power Output	160	milliwatts

Maximum Circuit Values:

Grid-Circuit Resistance:

For fixed-bias operation	Not recommended
For cathode-bias operation	0.5 max. megohm

♦ It is recommended that the heater be kept at cathode potential to minimize the effects of variation in the heater-to-cathode capacitance between tubes.

OPERATING CONSIDERATIONS

The *mounting arrangement* should insure that the tube is held secure by its socket. Unless this recommendation is followed, the generated frequency may change by as much as 10 megacycles per second. Use of a conventional miniature tube shield and external clamping arrangement are recommended.

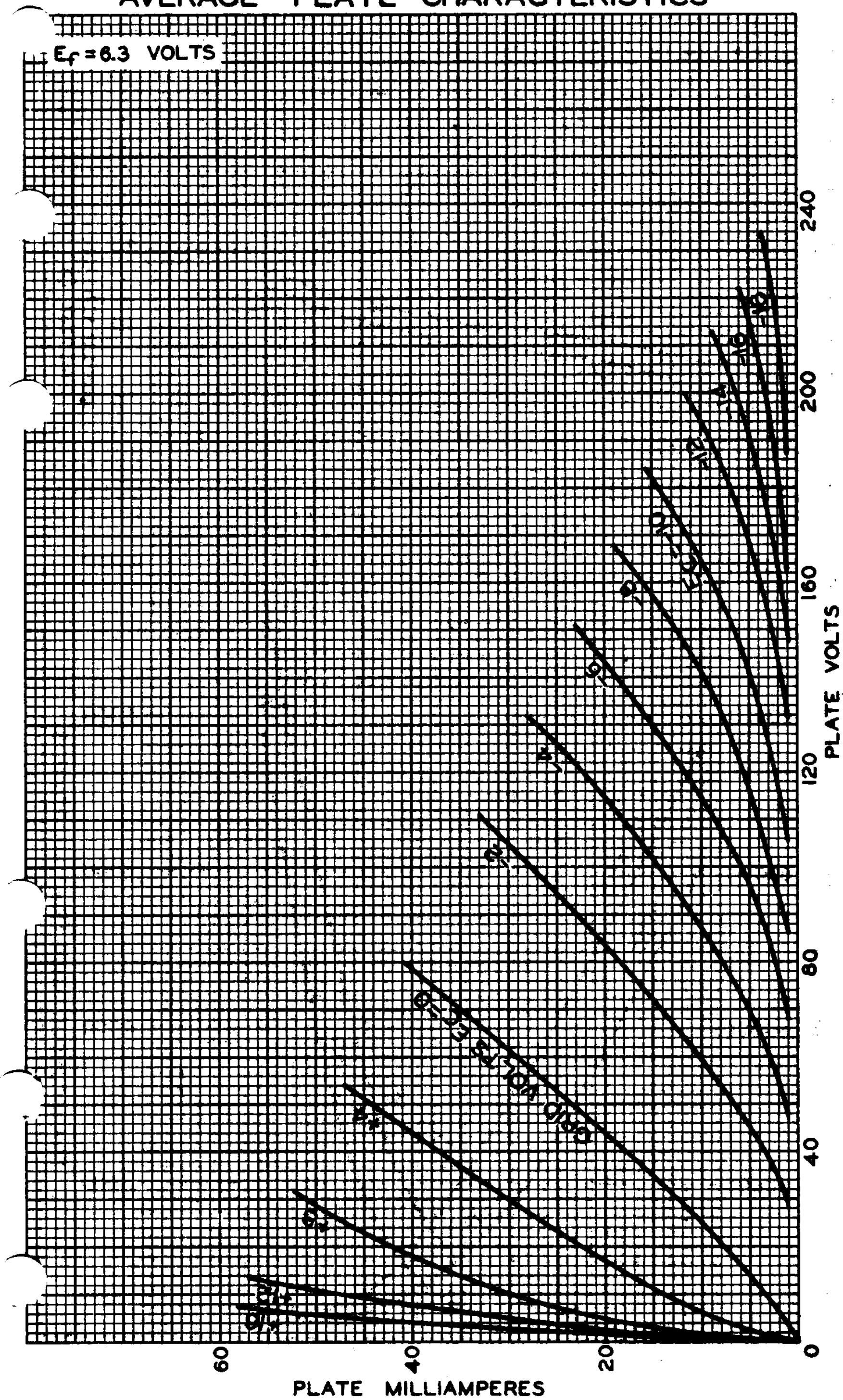
The *base pins* of the 6AF4 fit the miniature 7-contact socket. The *socket* should be of the mica-filled, rubber, or ceramic type.

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AVERAGE PLATE CHARACTERISTICS



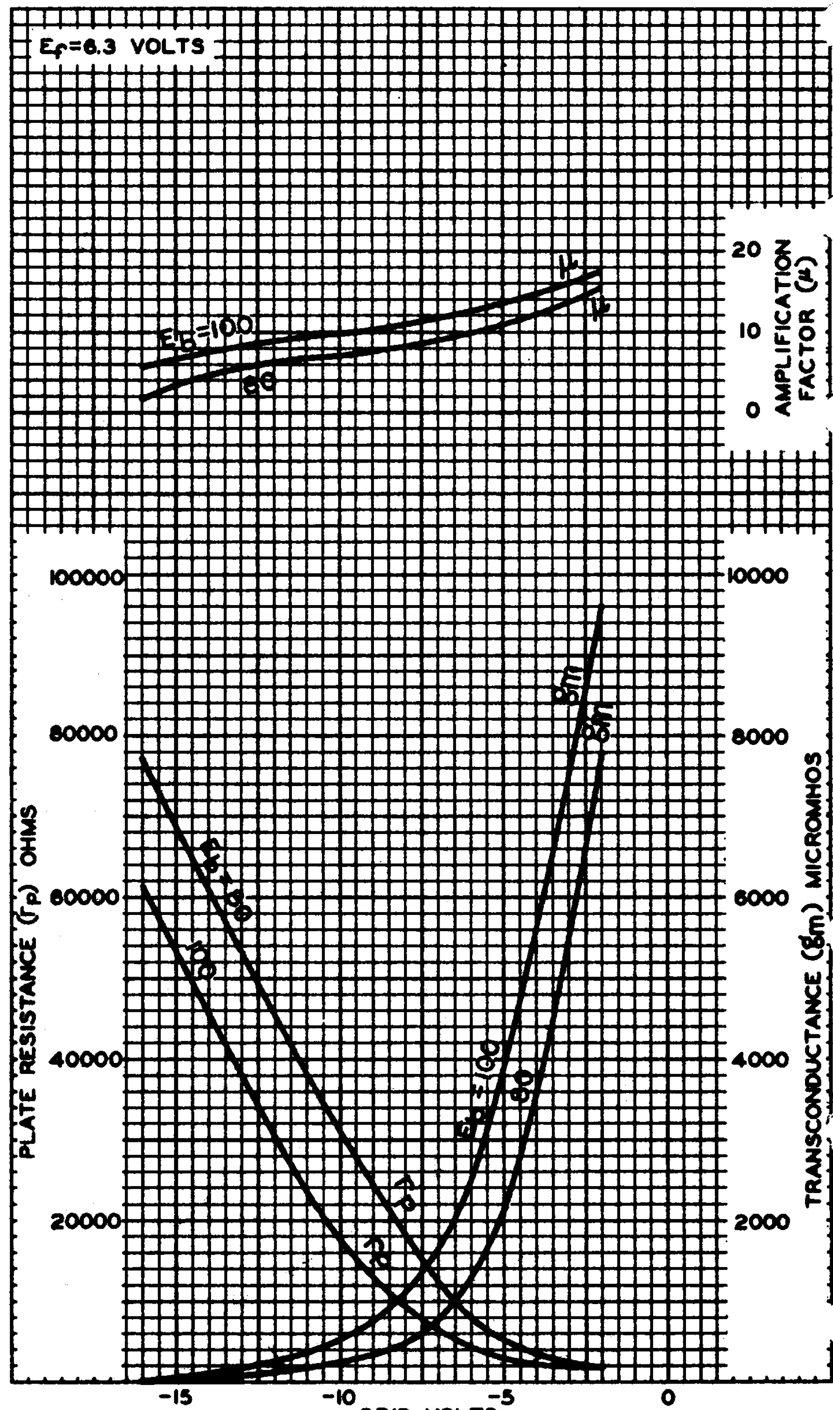
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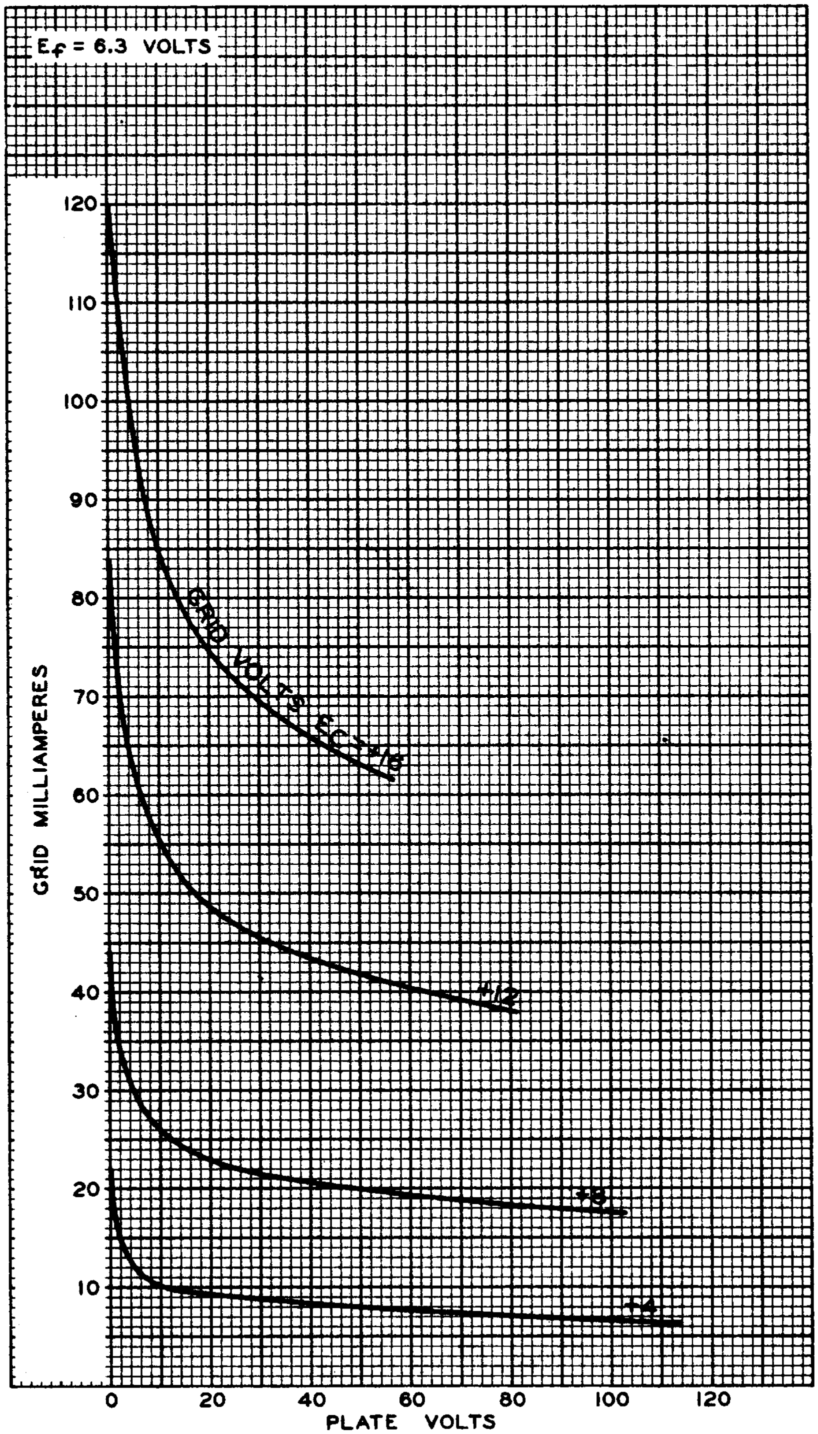
AVERAGE CHARACTERISTICS



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AVERAGE CHARACTERISTICS



MAR. 19, 1952 TUBE DEPARTMENT 92CM-7759R1

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FREQUENCY SHIFT CHARACTERISTICS

